

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P546973

Luminaire Tested: **FMR-24-4-LD4-3HI-35-UNV-80-96-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-79-08  
Report Number: P546973  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 6/15/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-24-4-LD4-3HI-35-UNV-80-96-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

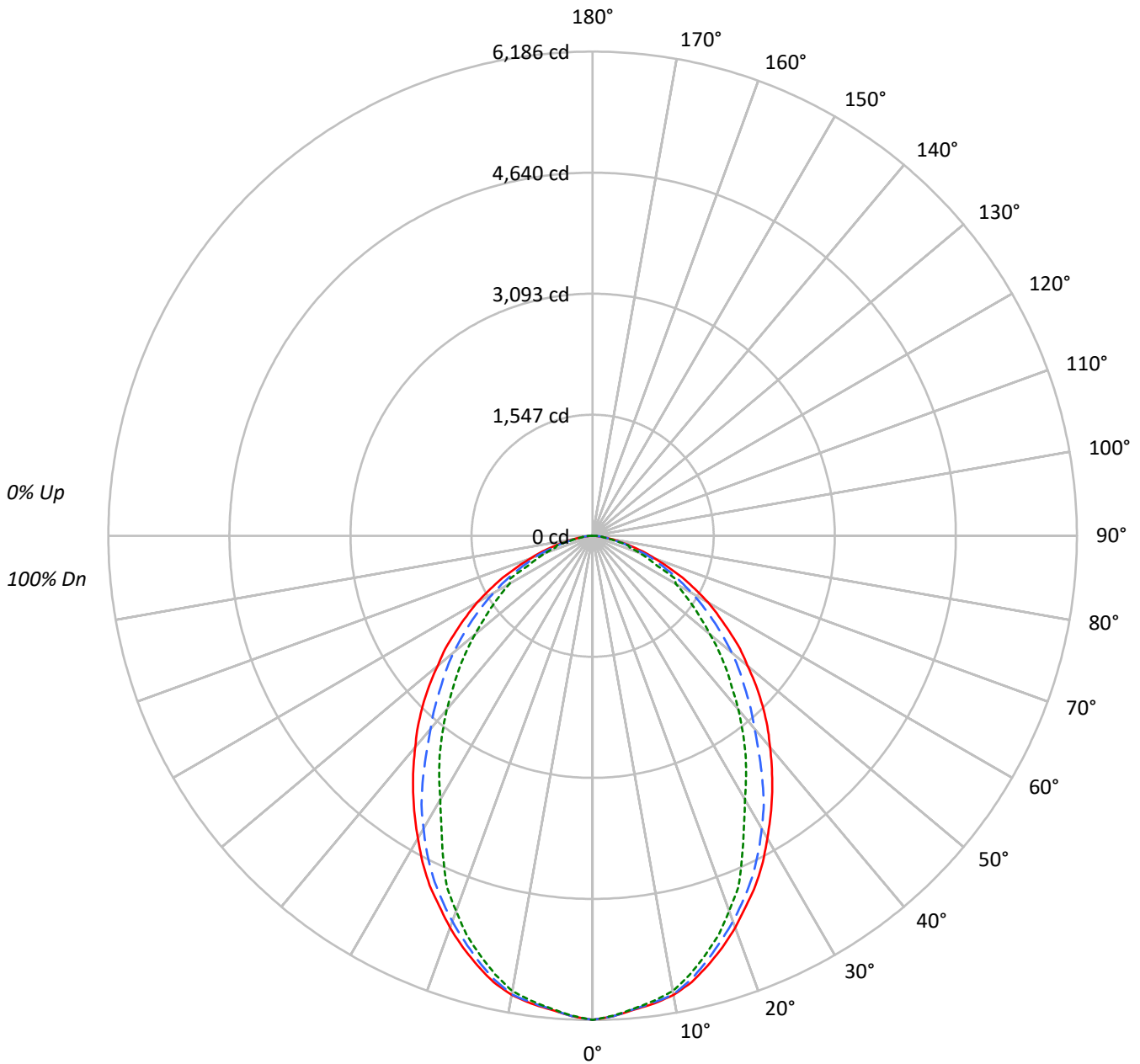
Lumens per Lamp: N/A  
Luminaire Lumens: 12143.0 lumens  
Efficiency: N/A  
Efficacy: 93.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 129.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	8323	8323	8323
5°	8209	8200	8190
10°	8138	8128	8070
15°	7919	7839	7730
20°	7628	7505	7300
25°	7314	7155	6709
30°	6932	6710	6044
35°	6566	6202	5591
40°	6192	5652	5087
45°	5837	5225	4599
50°	5404	4850	4101
55°	4999	4395	3674
60°	4580	3926	3291
65°	4030	3438	2914
70°	3319	3010	2476
75°	2639	2305	2416
80°	1773	1662	1551
85°	1104	1325	1545



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	575.8	4.7
10°-20°	1580.2	13.0
20°-30°	2187.7	18.0
30°-40°	2332.7	19.2
40°-50°	2128.1	17.5
50°-60°	1667.2	13.7
60°-70°	1086.6	8.9
70°-80°	481.4	4.0
80°-90°	103.4	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	4343.7	35.8
0°-40°	6676.3	55.0
0°-60°	10471.6	86.2
0°-90°	12143.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12143.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6186	6186	6186	6186	6186	
5°	6078	6071	6071	6064	6064	577
15°	5685	5685	5628	5570	5549	1598
25°	4927	4898	4820	4648	4519	2262
35°	3997	3969	3776	3490	3404	2499
45°	3068	3003	2746	2517	2417	2363
55°	2131	2067	1874	1652	1566	1911
65°	1266	1194	1080	1101	915	1247
75°	508	472	443	422	465	544
85°	72	79	86	93	100	99
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6185.5	6185.5	6185.5	6185.5	6185.5
2.5°	6142.6	6142.6	6142.6	6135.4	6135.4
5°	6078.2	6071.1	6071.1	6063.9	6063.9
7.5°	6028.2	6021.0	6013.9	6006.7	5992.4
10°	5956.7	5956.7	5949.5	5913.7	5906.6
12.5°	5842.2	5835.1	5806.5	5756.4	5742.1
15°	5684.9	5684.9	5627.7	5570.5	5549.1
17.5°	5513.3	5506.2	5434.6	5377.4	5348.8
20°	5327.4	5313.1	5241.6	5148.6	5098.6
22.5°	5120.0	5120.0	5034.2	4912.6	4862.6
25°	4926.9	4898.3	4819.7	4648.1	4519.3
27.5°	4705.3	4662.4	4576.5	4333.4	4183.2
30°	4462.1	4440.7	4319.1	4004.5	3890.1
32.5°	4233.3	4197.5	4068.8	3739.9	3646.9
35°	3997.3	3968.7	3775.6	3489.6	3403.8
37.5°	3761.3	3725.6	3482.5	3253.6	3146.4
40°	3525.4	3482.5	3217.9	3010.5	2896.1
42.5°	3303.7	3246.5	2989.1	2767.4	2638.7
45°	3067.7	3003.4	2745.9	2517.1	2417.0
47.5°	2831.7	2774.5	2538.6	2302.6	2188.2
50°	2581.5	2531.4	2316.9	2080.9	1959.3
52.5°	2374.1	2295.4	2088.0	1852.1	1752.0
55°	2131.0	2066.6	1873.5	1651.8	1566.0
57.5°	1909.3	1844.9	1666.1	1458.8	1387.3
60°	1701.9	1608.9	1458.8	1280.0	1222.8
62.5°	1473.1	1401.6	1272.9	1122.7	1194.2
65°	1265.7	1194.2	1079.8	1101.2	915.3
67.5°	1036.9	1001.1	901.0	800.9	772.3
70°	843.8	800.9	765.1	657.9	629.3
72.5°	672.2	629.3	579.2	522.0	500.6
75°	507.7	472.0	443.4	421.9	464.8
77.5°	350.4	336.1	314.6	293.2	286.0
80°	228.8	221.7	214.5	207.4	200.2
82.5°	135.9	135.9	135.9	135.9	135.9
85°	71.5	78.7	85.8	93.0	100.1
87.5°	42.9	42.9	50.1	57.2	64.4
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC







— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)